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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/691,035	10/19/2000	Kazunori Bannai	197629US2	5156
22850	7590	06/07/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PHAM, HAI CHI	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/691,035

Applicant(s)

BANNAI, KAZUNORI

Examiner

Hai C Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/20/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Duplicate Claim Objection***

2. Claim **17** is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 15. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 25 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25:

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- Claim 25 recites an optical scanning apparatus based on the method claim 23. It is not clear what the Applicant is intended to claim since the metes and bounds of the claimed limitations are not clearly defined.

Claim 29:

- Similarly, claim 29 recites an optical scanning apparatus based on the method claim 23. It is not clear what the Applicant is intended to claim since the metes and bounds of the claimed limitations are not clearly defined.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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6. Claims 1, 3, 5, 12, 14 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Naoe et al. (U.S. 5,997,153).

Naoe et al. discloses an optical scanning apparatus comprising a light beam emitting laser diode (2) and a holding member including a cylindrical holder (stepped through bore 3a) in which the laser diode is fittedly held, the bore being formed at the center of a base portion (3), wherein the bore (3a) and the base (3) are formed of a resin having thermal conductivity equal to or greater than  $0.9 \text{ W/m}^{\circ}\text{K}$  (col. 7, lines 2-25).

Naoe et al. further teaches the holding member being made of a glass fiber reinforced polyester resin (col. 7, lines 13-15).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 4, 6, 11, 13, 15, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naoe et al. in view of Sato et al. (U.S. 4,800,401).

Naoe et al. discloses all the basic limitations of the claimed invention including the laser source unit when mounted to the body of a laser printer would be supported by a flat surface (Fig. 2) of an optical box (not shown). However, Naoe et al. fails to explicitly disclose the image forming system disposed on the base portion of the optical

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scanning apparatus, the charging section, the developing section and the transferring section.

Regardless, it is old and well known in the art the above missing elements are commonly included in a laser printer necessary for performing the scanning of the surface to be scanned by the laser beam to form a latent image thereon, which is then developed and transferred to a recording paper, as evidenced by Sato et al., which discloses an image forming apparatus comprising an optical scanning device having a laser unit (6) formed by a cylindrical holder for holding a semiconductor laser (Fig. 5), the holder being fixed to an optical box (5) having a flat base portion (4) supporting a set of imaging lenses (31 and 32), the apparatus further includes a charger (40), a developer (41), and an image transfer (44).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the optical box with the base portion, the imaging lenses, the charging section, the developing section and the transferring section in the device of Naoe et al. since Sato et al. discloses this to be known in the art to include all the above components for performing a reproduction of an image.

9. Claims 7, 9, 18, 20, 23-27 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naoe et al. in view of Morris et al. (U.S. 4,835,786).

Naoe et al. discloses all the basic limitations of the claimed invention except for the heat radiating fin projecting radially from an outer circumferential portion of the holding member.

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Morris et al. discloses a solid-state laser unit comprising a cylindrical housing (10) for fixedly holding the laser medium (12) and radial cooling fins (20) provided on the outer circumferential portion of the housing so as to increase the cooling effect (Fig. 2).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the radial cooling fins on the outer surface of the holding member of Naoe et al. device as taught by Morris et al. for the purpose of increasing the cooling effect to the laser holding member.

The method claims 23-27 and 29-30 are deemed to be clearly anticipated by functions of the above structures.

10. Claims 8, 10, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naoe et al. in view of Sato et al., as applied to claims 2, 4, 13, 15 above, and further in view of Morris et al.

Naoe et al., as modified by Sato et al., discloses all the basic limitations of the claimed invention except for the heat radiating fin projecting radially from an outer circumferential portion of the holding member.

Morris et al. discloses a solid-state laser unit comprising a cylindrical housing (10) for fixedly holding the laser medium (12) and radial cooling fins (20) provided on the outer circumferential portion of the housing so as to increase the cooling effect (Fig. 2).

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the radial cooling fins on the outer surface of the holding member of the modified device of Naoe et al. as taught by Morris et al. for the purpose of increasing the cooling effect to the laser holding member.

11. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naoe et al. in view of Morris et al., as applied to claim 23 above, and further in view of Suzuki et al. (U.S. 6,641,878).

Naoe et al., as modified by Morris et al., discloses all the basic limitations of the claimed invention except for the resin having aluminum filler.

Suzuki et al. discloses an optical holding member for holding an optical pickup device including the semiconductor laser (1), the holding member being formed from a resin composition comprising a polyester resin and an inorganic filler, which can be selected from the group including glass fiber and aluminum fiber (col. 5, lines 23-36), and having a thermal conductivity of at least 1 W/m<sup>2</sup>K.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the holding member with a resin composition including the aluminum fiber as taught by Suzuki et al. in the modified device of Naoe et al. The motivation for doing so would have been to further improve the mechanical properties and heat resistance of the laser holding member.

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***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM  
PRIMARY EXAMINER

May 27, 2004